

6AQ5-A

BEAM POWER TUBE

7-PIN MINIATURE TYPE

With heater having controlled warm-up time

6AQ5-A

GENERAL DATA

Electrical:

Heater, for Unipotential Cathode:

Voltage	6.3	ac or dc volts
Current	0.45	amp
Warm-up time (Average)	11	sec

For definition of heater warm-up time and method of determining it, see sheet HEATER WARM-UP TIME MEASUREMENT at front of this Section.

Direct Interelectrode Capacitances (Approx.):°

Grid No.1 to plate	0.4	μμf
Grid No.1 to cathode & grid No.3, grid No.2, and heater	8	μμf
Plate to cathode & grid No.3, grid No.2, and heater	8.5	μμf

Mechanical:

Operating Position	Any
Maximum Overall Length	2-5/8"
Maximum Seated Length	2-3/8"
Length, Base Seat to Bulb Top (Excluding tip)	2" ± 3/32"
Diameter	0.650" to 0.750"
Dimensional Outline	*See General Section*
Bulb	T5-1/2
Base	Small-Button Miniature 7-Pin (JETEC No.E7-1)
Basing Designation for BOTTOM VIEW	7BZ

Pin 1 - Grid No.1
Pin 2 - Cathode, Grid No.3
Pin 3 - Heater
Pin 4 - Heater
Pin 5 - Plate
Pin 6 - Grid No.2
Pin 7 - Grid No.1

AMPLIFIER — Class A_1

Maximum Ratings, *Design-Center Values:*

PLATE VOLTAGE	250	max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	250	max.	volts
GRID-No.2 INPUT	2	max.	watts
PLATE DISSIPATION	12	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200▲	max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250	max.	°C

°,▲: See next page.

◄ Indicates a change.

ELECTRON TUBE DIVISION
RADIO CORPORATION OF AMERICA, HARRISON, NEW JERSEY

RCA

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Typical Operation and Characteristics:

Plate Voltage	180	250	volts
Grid-No.2 Voltage	180	250	volts
Grid-No.1 (Control-Grid) Voltage	-8.5	-12.5	volts
Peak AF Grid-No.1 Voltage	8.5	12.5	volts
Zero-Signal Plate Current	29	45	ma
Max.-Signal Plate Current	30	47	ma
Zero-Signal Grid-No.2 Current	3	4.5	ma
Max.-Signal Grid-No.2 Current	4	7	ma
Plate Resistance (Approx.)	58000	52000	ohms
Transconductance	3700	4100	μmhos
Load Resistance	5500	5000	ohms
Total Harmonic Distortion	8	8	%
Max.-Signal Power Output	2	4.5	watts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:

For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

AMPLIFIER — Class AB_1

Maximum Ratings, *Design-Center Values:*

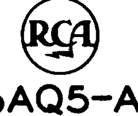
PLATE VOLTAGE	250 max.	volts
GRID-No.2 (SCREEN-GRID) VOLTAGE	250 max.	volts
GRID-No.2 INPUT	2 max.	watts
PLATE DISSIPATION	12 max.	watts
PEAK HEATER-CATHODE VOLTAGE:		
Heater negative with respect to cathode	200 max.	volts
Heater positive with respect to cathode	200▲ max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250 max.	°C

Typical Push-Pull Operation:

Unless otherwise specified, values are for 2 tubes

Plate Voltage	250	volts
Grid-No.2 Voltage	250	volts
Grid-No.1 (Control-Grid) Voltage●	-15	volts
Peak AF Grid-No.1-to-Grid-No.1 Voltage	30	volts
Zero-Signal Plate Current	70	ma
Max.-Signal Plate Current	79	ma
Zero-Signal Grid-No.2 Current	5	ma
Max.-Signal Grid-No.2 Current	13	ma
Effective Load Resistance (Plate to plate)	10000	ohms
Total Harmonic Distortion	5	%
Max.-Signal Power Output	10	watts

○,▲,●: See next page.



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Maximum Circuit Values:

Grid-No.1-Circuit Resistance:●		
For fixed-bias operation	0.1 max.	megohm
For cathode-bias operation	0.5 max.	megohm

VERTICAL-DEFLECTION AMPLIFIER

Triode Connection†

Maximum Ratings, *Design-Center Values Except as Noted:*

For operation in a 525-line, 30-frame system□

DC PLATE VOLTAGE	250	max.	volts
PEAK POSITIVE-PULSE PLATE VOLTAGE# (Absolute maximum)	1100■	max.	volts
PEAK NEGATIVE-PULSE GRID-No.1 (CONTROL-GRID) VOLTAGE	250	max.	volts
PEAK CATHODE CURRENT	105	max.	ma
DC CATHODE CURRENT	35	max.	ma
PLATE DISSIPATION	9	max.	watts
PEAK HEATER-CATHODE VOLTAGE:			
Heater negative with respect to cathode	200	max.	volts
Heater positive with respect to cathode	200▲	max.	volts
BULB TEMPERATURE (At hottest point on bulb surface)	250	max.	°C

Characteristics:

Plate Voltage	250	volts
Grid-No.1 Voltage	-12.5	volts
Amplification Factor	9.5	
Plate Resistance (Approx.)	1970	ohms
Transconductance	4800	μmhos
Plate Current	49.5	ma
Grid-No.1 Voltage (Approx.) for plate ma. = 0.5	-37	volts

Maximum Circuit Values:

Grid-No.1-Circuit Resistance:		
For cathode-bias operation	2.2 max.	megohms

○ Without external shield.

▲ The dc component must not exceed 100 volts.

● The type of input coupling used should not introduce too much resistance in the grid-No.1 circuit. Transformer- or impedance-coupling devices are recommended.

† Grid-No.2 (Screen-grid) connected to plate.

□ As described in "Standards of Good Engineering Practice Concerning Television Broadcast Stations," Federal Communications Commission.

This rating is applicable where the duration of the voltage pulse does not exceed 15 per cent of one vertical scanning cycle. In a 525-line, 30-frame system, 15 per cent of one vertical scanning cycle is 2.5 milliseconds.

■ Under no circumstances should this absolute value be exceeded.

← Indicates a change.



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CURVES
For the 6AQ5-A, within its ratings, are the same
as those shown for Type 6V6